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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,188	03/15/2004	Clarence Hugh Jonson	17026/002001	1634

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FISH & RICHARDSON, PC
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER	
HARRIS, KATRINA B	

ART UNIT	PAPER NUMBER
3747	

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/801,188	JONSON, CLARENCE HUGH	
	Examiner	Art Unit	
	Katrina B. Harris	3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *08/13/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The following is a first action on the merits of application serial no. 10/801,188 filed March 15, 2004.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (6,793,898) in view of Taylor III et al. (6,715,452).

Brown et al. discloses a fuel system, comprising: a fuel injector (33) configured to receive fuel and to transmit fuel in droplet form; a reaction region (8) to receive fuel from the fuel injector (33); a reaction rod (34) positioned in the reaction region, the a

convex end to receive the fuel from the reaction rod having fuel injector, the reaction rod further having a concave end opposite the convex end.

Brown et al. does not clearly teach that the reaction rod (34) has concave and convex surfaces. Nevertheless, the rod shown in Figure 1 appears to have curved surfaces.

Brown et al. discloses the fuel reformer as disclosed in the invention but does not disclose the engine. Taylor III et al. discloses an engine having a fuel reformer. It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the reformer of Brown et al. into the engine of Taylor III. Et al.

Regarding claim 2, wherein the reaction region (8) comprises an inner region of a reaction tube (6).

Regarding claim 3, wherein the reaction tube comprises a magnetically polarizable material.

Regarding claim 4, wherein the reaction rod (34)comprises a magnetically polarizable material.

Regarding claim 5, wherein the material comprises steel.

Regarding claim 6, further comprising a vacuum generator in communication with the reaction region, the vacuum generator configured to reduce a pressure of the reaction region with respect to a region exterior to the reaction region.

Regarding claim 7, wherein the vacuum generator comprises a venturi.

Regarding claim 8, wherein the vacuum generator comprises a turbopump.

Regarding claim 9, further including an engine configured to be powered using fuel from the reaction region.

Regarding claim 10, further including a fuel transport tube positioned between the engine and the reaction region, the fuel transport tube configured to transport fuel from the reaction region to the engine.

Regarding claim 11, wherein the fuel transport tube comprises a non-magnetic material.

Regarding claim 12, wherein the non-magnetic material comprises copper.

Regarding claim 13, further including an exhaust pipe configured to transport exhaust

from the engine to an exterior region.

Regarding claim 14, wherein the reaction region comprises a reaction tube, the reaction

tube positioned at least partially within at least a portion of the exhaust pipe.

Regarding claim 15, comprising: a fuel storage region; a fuel injector configured to receive fuel from the fuel storage region and to transmit fuel in droplet form; a reaction region to receive fuel from the fuel injector; and a reaction rod positioned in the reaction region, the reaction rod having a convex end to receive the fuel from the fuel injector, the reaction rod further having a concave end opposite the convex end.

Regarding claim 16, further including an engine in communication with the reaction region.

Regarding claim 17, wherein the engine includes one or more cylinders.

Regarding claim 18, wherein the engine comprises an engine selected from the group consisting of a turbine engine, a diesel engine, a steam engine, and a gas engine.

Regarding claim 19, further comprising a vacuum generator in communication with the

reaction region.

Regarding claim 20, wherein the vacuum generator is selected from the group consisting of a venturi and a Vacuum pump.

Regarding claim 21, wherein the engine system is included in a vehicle.

Regarding claim 22, comprising: a fuel injector configured to receive fuel and to transmit fuel in droplet form; a reaction region to receive fuel from the fuel injector; a reaction rod positioned in the reaction region, the reaction rod having a first fuel receiving end and a second end opposite the first fuel receiving end;
a first stop positioned at least partially in the reaction region proximate to the first fuel receiving end of the reaction rod; and a second stop positioned at least partially in the reaction region proximate to the second end of the reaction rod.

Regarding claim 23, wherein the first fuel receiving end of the reaction rod has a convex shape.

Regarding claim 24, wherein the second end of the reaction rod has a concave shape.

Regarding claim 25, A method of providing fuel to an engine, comprising:

generating fuel droplets from a fuel source; transmitting the fuel droplets to a reaction region proximate to a reaction rod; generating energized fuel by transmitting the fuel droplets past a reaction rod, wherein the reaction rod has a first convex fuel receiving end and a second concave transmitting end; and transmitting the energized fuel to the engine.

Regarding claim 26, wherein generating energized fuel comprises electrically transforming the fuel droplets.

Regarding claim 27, further comprising reducing the pressure in the reaction region.

Regarding claim 28, wherein the reaction rod comprises a magnetically polarizable material.

Regarding claim 29, wherein the reaction region is enclosed by a reaction tube.

Regarding claim 30, wherein the reaction tube comprises a magnetically polarizable material.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katrina B. Harris whose telephone number is 571-272-4842. The examiner can normally be reached on 6:00 AM -2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Yuen can be reached on 571-272-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Katrina B. Harris
Examiner
Art Unit 3747

KBH

MAHMOUD GIMIE
PRIMARY EXAMINER